

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
9 September 2005 (09.09.2005)

PCT

(10) International Publication Number
WO 2005/083503 A1

(51) International Patent Classification⁷: **G02F 1/13357, G09F 9/00**

(21) International Application Number:
PCT/JP2005/003679

(22) International Filing Date: 25 February 2005 (25.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2004-055215 27 February 2004 (27.02.2004) JP

(71) Applicant (for all designated States except US): SHARP KABUSHIKI KAISHA [JP/JP]; 22-22, Nagaike-cho, Abeno-ku, Osaka-shi, Osaka 5458522 (JP).

(72) Inventor; and

(75) Inventor/Applicant (for US only): NAKANISHI, Hiroshi.

(74) Agent: HARAKENZO WORLD PATENT & TRADE-MARK; Daiwa Minamimorimachi Building, 2-6, Tenjinbashi 2-chome Kita, Kita-ku, Osaka-shi, Osaka 5300041 (JP).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

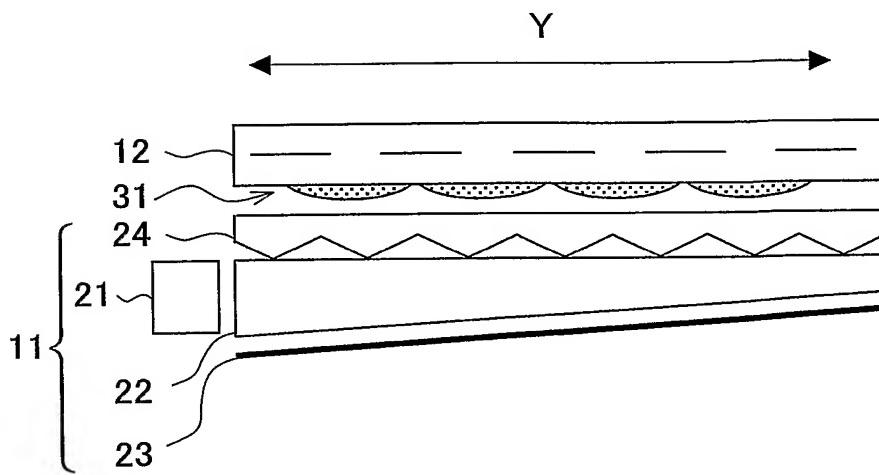
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DISPLAY APPARATUS AND ELECTRONIC DEVICE



WO 2005/083503 A1

(57) Abstract: In the present display apparatus, the directivity of light emitted from a backlight is set high in the direction along which a pixel pitch is long, and such light is caused to spread by a lenticular lens. In this manner, in the present display apparatus, the light entering the lenticular lens is parallelized by increasing the directivity of the light emitted from the backlight. For this reason, an amount of light whose traveling direction can be controlled by the lenticular lens (i.e. light focusing on pixels) can be increased, as compared to a display apparatus in which light emitted from a backlight has a low directivity. With this arrangement, both the frontal brightness and the viewing angle of a liquid crystal panel can be increased.